

PATENT COOPERATION TREATY

**PCT**

**INTERNATIONAL SEARCH REPORT**

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>21415-90183</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 99/ 04996</b>	International filing date (day/month/year) <b>05/03/1999</b>	(Earliest) Priority Date (day/month/year) <b>05/03/1998</b>

Applicant  
**PENN STATE RESEARCH FOUNDATION et al.**

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.  
 It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

contained in the international application in written form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2.  Certain claims were found unsearchable (See Box I).

3.  Unity of invention is lacking (see Box II).

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:  
**HUMAN HOMOLOG OF A NUCLEAR MIGRATION GENE AND ITS USE**

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

as suggested by the applicant.

because the applicant failed to suggest a figure.

because this figure better characterizes the invention.

None of the figures.

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 99/ 04996

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
2.  Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Insofar as claims 3-6, 8 and 9 are directed to a method of treatment of the human/animal body and insofar as claims 18-20 are directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box I.2

Claims Nos.: 21

Claim 21, relating to an inhibitor of the DNA molecule of claims 1 and 2, could not be searched as its subject-matter is insufficiently disclosed (Art. 5, 6 PCT).

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

International Application No

/US 99/04996

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 C12N15/12 C07K14/47 A61K48/00 C12N15/11 C12N9/00  
 C12Q1/68 G01N33/68 C12N15/70 C07K16/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 C12N C07K A61K C12Q G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 98 33911 A (INCYTE PHARMA INC.) 6 August 1998 (1998-08-06) Please see: SEQ ID NO:2	1, 3, 4, 7, 13-17
P, X	GOCKE C.D.: "EXPRESSION AND LOCATION OF HNUDC, A CELL GROWTH-RELATED PROTEIN, IN HUMAN TISSUE" LABORATORY INVESTIGATION, vol. 79, no. 1, January 1999 (1999-01), page 175A XP002122519 the whole document	1, 10, 11, 16, 18, 19
	-/-	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

2 December 1999

Date of mailing of the international search report

20/12/1999

Name and mailing address of the ISA

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Schönwasser, D

## INTERNATIONAL SEARCH REPORT

International Application No

/US 99/04996

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>MORRIS S.M. ET AL.: "Expression of RNUDC, a Potential Nuclear Movement Protein, in Mammalian Cells: Localization to the Golgi Apparatus"  EXPERIMENTAL CELL RESEARCH,  vol. 238, no. 1, January 1998 (1998-01),  pages 23-32, XP002122518  page 24, column 2, line 36 - line 40;  figures 2,3</p>	16
A	<p>CHIU Y.-H. ET AL.: "Extragenic Suppressors of nudC3, a Mutation That Blocks Nuclear Migration in Aspergillus nidulans"  GENETICS,  vol. 141, no. 2, October 1995 (1995-10),  pages 453-464, XP002122521</p>	1
A	<p>MORRIS N. R. ET AL.: "Nuclear migration, nucleokinesis and lissencephaly"  TRENDS IN CELL BIOLOGY,  vol. 8, December 1998 (1998-12), pages  467-470, XP002122522  the whole document</p>	1
A	<p>HILLIER L. ET AL.: "The WashU-Merck EST Project; 592753 3' similar to TR:G619907 G619907 C15 MRNA"  EMBL DATABASE ENTRY HSAA60698; ACCESSION NUMBER AA160698,  19 January 1997 (1997-01-19), XP002124443  the whole document</p>	1,2
T	<p>MILLER B.A. ET AL.: "A homolog of the fungal nuclear migration gene nudC is involved in normal and malignant human hematopoiesis"  EXPERIMENTAL HEMATOLOGY,  vol. 27, no. 4, April 1999 (1999-04),  pages 742-750, XP002122520  the whole document</p>	1-20

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

/US 99/04996

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9833911 A	06-08-1998	AU 5931098 A	25-08-1998

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